

CLAIMS

1. A hybrid printing device for printing on a surface, the device comprising:
 - a printing means adapted to print on the surface; and
 - a sensing means adapted to sense the position of the printing device in relation to positioning indicia located on the surface wherein the printing means is further adapted to be responsive to the detected position of the device in relation to the detected position.
2. A hybrid printing device as claimed in claim 1 having a handheld form-factor.
3. A hybrid printing device as claimed in claim 1 wherein the device is connected to a printing control means by a wired, wireless, RF or Infra Red link.
4. A hybrid printing device as claimed in claim 1 wherein the positioning indicia encode data describing absolute or relative positions on the surface, said indicia being optically imaged by the sensing means and thus providing an output representing the absolute position of the printing means the surface.
5. A hybrid printing device as claimed in claim 1 wherein the position of the printing means is used to control the operation of the printing means by switching the printing means on or off depending on whether the specific detected location on the surface is to be printing on.
6. A hybrid printing device as claimed in claim 1 wherein the position of the sensing means, and hence the printing means, on the surface is determined by a combination of absolute position detection based on optical glyphs located on the surface and detection of movement of the sensing means relative to the surface, thereby, so long as at least one measurement of the absolute position is performed by the sensing means, the time-varying

absolute position of the sensing means may be determined by reference to that absolute position and the movement of the sensing means relative to that absolute position.

7. A hybrid printing device as claimed in claim 1 wherein the hybrid printing device is configured with a paintbrush form-factor whereby a sweeping action of the device over the surface will result in printing at designated locations on the surface.

8. A hybrid printing device as claimed in claim 1 wherein the hybrid printing device has a printer form-factor and wherein the operation of the printing means is controlled by reference to data embedded in the indicia.

9. A hybrid printing device as claimed in claim 8 wherein movement of the printing means over the surface follows a regular, random or sequential scanning pattern with the printing means being activated depending on the detected location of the sensing means and hence the printing means.

10. A hybrid printing device as claimed in claim 9 wherein the movement of the printing means is optimized depending on the print control data embedded in the indicia.

11. A hybrid printing device as claimed in claim 1 wherein the printing control means is a computer.

12. A method of printing on a surface, the method comprising the steps of detecting the absolute position of a printing means in relation to the surface and activating the printing means at designated locations on the surface as a function of the detected position on that surface.

13. A method of printing on a surface as claimed in claim 12 wherein a printing control means remembers at which locations on the surface have already been printed on, thereby allowing the movement of the hybrid device over the surface to be interrupted.

14. A hybrid printing device as claimed in claim 1 wherein the indicia pattern are printed on the surface prior to use with the handheld hybrid printing device.

15. A hybrid printing device as claimed in claim 1 wherein the hybrid printing device is responsive to printing commands encoded on or into the surface whereby the hybrid device prints on the surface as it is passed over the surface in a manner which is controlled by the data contained in the area of the printing surface which is imaged by the device.